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10/725,438	12/03/2003	Mikio Oda	2003_1683	5362

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EXAMINER

STORM, DONALD L

ART UNIT	PAPER NUMBER
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2654

DATE MAILED: 11/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/725,438

Applicant(s)

ODA ET AL.

Examiner

Donald L. Storm

Art Unit

2654

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 03 December 2003 and 30 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-7,9-12,14 and 15 is/are rejected.
- 7) ☒ Claim(s) 3,8 and 13 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 December 2003 and 30 June 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☒ Certified copies of the priority documents have been received in Application No. 09/696,953.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Information Disclosure Statement*

1. A copy of the search report of the European Patent Office (received December 3, 2003) is present. The search report and its cited documents have been considered by the Examiner.

### *Response to Remarks*

2. The PRELIMINARY REMARKS document, received December 3, 2003, is present, and it has been considered by the Examiner.

### *Specification*

3. The specification is objected to because references to related applications should be brought up to date if any of the applications have been abandoned or matured into patents, and as appropriate, the application serial numbers or patent numbers should be included. Including current titles of the applications is encouraged. See MPEP 608.01 SPECIFICATION. Correction should be made throughout the disclosure, for example:

At page 1, should the identification "09/696,953, filed October 27, 2000" be --09/696,953, "Device for Normalizing Voice Pitch for Voice Recognition," filed October 27, 2000, now US Patent 6,687,665--?

4. The Examiner notes, without objection, the possibility of informalities in the specification. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. The Applicant's cooperation is requested to consider correcting minor errors of which the Applicant may become aware during normal review and revision of the disclosure.

- a. At [0098], did the Applicant intend to remove the word "~~while~~"?
- b. At [0111] did the Applicant intend the word "pith" to be "pitch"?

***Claim Informalities***

5. Claims 3, 8, and 13 objected to as being (directly or indirectly) dependent upon a rejected base claim. See MPEP § 608.01(n)V.
6. Claim 1, and by dependency claims 2-5, are objected to under 37 CFR 1.75(a) because the meaning of the phrase “the probabilities” (next-to-last line) needs clarification. Because the voice analyzer was previously set forth as calculating only “a probability”, it may be unclear as to what element this phrase refers. To further timely prosecution and evaluate prior art, the Examiner has interpreted the voice analyzer --to calculate probabilities indicating degrees of coincidence--.
7. Claim 6, and by dependency claims 7-10, are objected to for the same reasons as claim 1 because the limitations are recited using obviously similar phrases.
8. Claim 11, and by dependency claims 12-15, are objected to for the same reasons as claim 1 because the limitations are recited using obviously similar phrases.
9. The Examiner notes, without objection, the possibility of informalities in the claims. The Applicant may wish to consider changes during normal review and revision of the disclosure.
  - a. In claim 13 (line 3), did the Applicant intend to remove the word “said”?
  - b. In claim 14 (line 2), did the Applicant intend to remove the word “a”?

***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Munsell and Cohrs

11. Claims 1, 2, 6, 7, 11, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Munsell et al. [US Patent 5,839,099] in view of Cohrs et al. [US Patent 5,960,393].

12. Regarding claim 6, Munsell [at column 3, lines 47-50] describes an embodiment (not shown) in which a frequency bandpass circuit changes incoming voice into an intermediate output that is then applied to a pitch altering circuit. In accord with that embodiment, Munsell [at column 1, lines 1-8] describes a voice recognition device optimally normalized for voice recognition by describing the content and functionality of the recited limitations recognizable as a whole to one versed in the art as the following terminology:

a voice analyzer operable to calculate a degree of coincidence among a target voice signal and each of a plurality of words in sample data [at column 1, lines 14-28, as a computer of voice recognition systems the compares a succession of phonemes of input voice to words represented as various groupings of sampled phonemes];

a voice pitch normalization device operable to generate [at column 6, lines 4-11 and column 4, line 61-column 5, line 15, as a signal conditioner including a filter control circuit, low-pass filter, high-pass filter, A/D converter, and rate control circuit for a pitch altering circuit that analyzes voice input and produces an output];

it generates the target voice signal by changing the incoming voice on a degree basis [at column 2, line 53-column 3, line 1, as produce an output from the voice input that is altered for the voice input as bandwidth limited as compared to the voice input];

the basis is predetermined [at column 6, lines 7-8, as the frequency range is controlled by control signals that are predetermined];

it changes a voice signal in voice pitch [at column 2, lines 52-61, as modify the predominant frequency of the voice input to a lower or higher pitch];

change it until a maximum [at column 5, lines 6-25 and column 6, line 42, as alter the control signal for lower or higher pitch as required to optimize in conjunction with the voice recognition system].

In the embodiment (not shown) [at column 3, lines 47-50] in which a frequency bandpass circuit changes incoming voice into an intermediate output that is then applied to a pitch altering circuit, Munsell's voice signal of changing pitch is the target voice signal output from the frequency bandpass circuit and then applied to the pitch altering circuit.

Munsell does not explicitly describe that the incoming voice is a command voice and does not discuss details of the voice recognition device. In particular, Munsell does not explicitly describe that the degree of is indicated by a probability and that the maximum is a probability that reaches a predetermined probability.

Cohrs [at column 1] describes some details of voice recognition devices that are conventionally found in command spotting applications, or other details may be used; the trade-offs are often conventionally applied by artisans also. Cohrs describes:

the incoming voice is a command voice [at column 1, lines 29-30, as input contains a command utterance];

the degree of coincidence indicated by a probability, the maximum is a probability, and the maximum reaches a predetermined probability (or higher) [at column 1, line 31-column 2, line 7, as the scores of comparing the input against respective hypotheses of one or more models is a

probability distribution and the most closely matching is analyzed to determine whether its similarity metric exceeds a threshold].

As indicated, Cohrs shows that voice commands, the degree of coincidence indicated by a probability, a probability of coincidence is maximum, and the maximum reaches a predetermined probability was known to artisans at the time of invention. The system by Munsell requires a voice recognition system that compare input voice to reference word models, but merely any voice recognition system from mature technologies. Munsell has not disclosed a preferred approach to those operations according to a design criterion or solution to any stated problem. Since it appears that the use of any voice recognition system that is known to artisans would perform to provide Munsell's control signal back to determine pitch, it would have been obvious to one of ordinary skill in the art of speech processing at the time of invention to include the concepts described by Cohrs, at least voice commands, the degree of coincidence indicated by a probability, the a probability of coincidence being maximum, and the maximum reaching a predetermined probability, because the Cohrs' voice recognition system would provide the convention voice recognition with which Munsell's system operates.

13. Regarding claim 7, Munsell also describes:

increase or decrease on the basis [at column 6, lines 13-26, as alter the frequency ranges of the low-pass filter and the high-pass filter];

the target signal is increased or decreased [at column 2, line 53-column 3, line 1, as produce an output from the voice input that is altered for the voice input as bandwidth limited as compared to the voice input].

Cohrs also describes:

when the maximum of the probabilities is smaller than the predetermined probability [at column 1, line 31-column 2, line 7, as the scores of a probability distribution and the most closely matching is analyzed to determine whether its similarity metric exceeds a threshold].

14. Claims 1 and 2 set forth limitations similar to limitations set forth in claims 6 and 7.

Munsell and Cohrs describe and make obvious the limitations as indicated there.

15. Claims 11 and 12 set forth a method with limitations comprising the functionality associated with using the system recited in claims 6 and 7. Because Munsell and Cohrs describe and make obvious the similar limitations as indicated there, these claims thus are unpatentable accordingly.

#### ***Double Patenting***

16. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).



U.S. Patent 6,687,665

17. Claims 1-2, 4-7, 9-12, and 14-15 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-2, 5-6, and 9-10 of U.S. Patent 6,687,665 having inventors who are also applicants of the instant application. Although the conflicting claims are not identical, they are not patentably distinct from each other because a person of ordinary skill in the art would conclude that the invention defined in the claims in issue is an obvious variation of the invention defined in the claims in the patent.

18. Independent claims 1, 6, and 11, and by dependency claims 2, 4-5, 7, 9-10, 12, and 14-15, of this application are not patentably distinct from claims 1-2, 5-6, and 9-10 of U.S. Patent 6,687,665 because the claims are set forth including obviously similar phrases.

However, claims 1, 6, and 11, and by dependency claims 2, 4-5, 7, 9-10, 12, and 14-15, of this application do not explicitly include U.S. Patent 6,687,665's claimed limitations of the target voice signal limited in pitch up to a first determined pitch, and when the maximum of the probabilities fails to reach the predetermined probability of higher before the target voice signal reaches the first predetermined pitch, as recited in its independent claims, and by dependency in the dependent claims.

It would have been obvious to one of ordinary skill in the art of computerized speech recognition at the time that the invention was made that claim limitations in U.S. Patent 6,687,665's claims differ from those in this application only by functions that can be eliminated if the effect of the additional conditions is unneeded or undesired to determine decreasing the pitch functions. If the functionality provided by the additional limitations were not desired, it would have been obvious to eliminate it, and so achieve the advantage of simplifying the processing.

19. Similarly, it would have been obvious that the additional limitations provided by the dependent claims 2, 6, and 10 of U.S. Patent 6,687,665 should not have been included if their added functions were not desired because their elimination would further simplify processing.

***Allowable Subject Matter***

20. Claims 3-5, 8-10, and 13-15 would be allowable over the prior art of record if rewritten to include all of the limitations of the base claim and any intervening claims. The whole structure and interaction expressed by the combination of all limitations is not made obvious compared to the prior art of record for the whole invention of those dependent claims, particularly with changing (increasing, decreasing) the target voice signal on the predetermined degree basis that also was the basis of changing the incoming command voice to generate the target voice signal. Certain assumptions that make the limitations clear have been considered for the claims, as described next or elsewhere in this Office action. The claims should also be rewritten to overcome any objections, rejections under 35 U.S.C. 112(2), and double-patenting rejections, especially as appearing in this Office action.

***Conclusion***

21. Any response to this action should be mailed to:

**Mail Stop Amendment**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**or faxed to:**

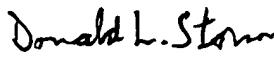
(571) 273-8300, (for both formal communications intended for entry and for informal or draft communications, but please label informal fax as "PROPOSED" or "DRAFT")

Patent Correspondence delivered by hand or delivery services, other than the USPS, should be addressed as follows and brought to U.S. Patent and Trademark Office, Customer Service Window, **Mail Stop Amendment**, Randolph Building, 401 Dulany Street, Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Donald L. Storm, of Art Unit 2654, whose telephone number is (571) 272-7614. The examiner can normally be reached on weekdays between 8:00 AM and 4:30 PM Eastern Time. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil can be reached on (571) 272-7602.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Inquiries regarding the status of submissions relating to an application or questions on the Private PAIR system should be directed to the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 703-305-3028 between the hours of 6 a.m. and midnight Monday through Friday EST, or by e-mail at: [ebc@uspto.gov](mailto:ebc@uspto.gov). For general information about the PAIR system, see <http://pair-direct.uspto.gov>.

October 28, 2005

  
Donald L. Storm  
Patent Examiner  
Art Unit 2654